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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/599,726	06/23/2000	Shinichi Irisawa	Q59149	9228

7590

08/08/2003

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EXAMINER

ROY, SIKHA

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 08/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/599,726

Applicant(s)

IRISAWA ET AL. 

Examiner

Sikha Roy

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The Amendment, filed on June 13, 2003 has been entered and is acknowledged by the Examiner.

Cancellation of claim 1 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2338823 to Ohshima et al. and further in view of U.S. Patent 6,249,086 to Honda et al.

Regarding claim 3 Ohshima et al. disclose (page 1 lines 15-26 Fig.1) an arc tube body incorporating a light emission quartz tube 4 arranged in the form of a discharge space 4a and having pinch seal portions 5 and 6 formed on two sides thereof and a pair of electrodes 8 projecting into the discharge space. The method of manufacturing the arc tube comprises heating the quartz tube in a range of 2000°C to 2300°C and forming the pinch seal portions.

3 *AW 7/27/03*
Claim ~~1~~ differs from Ohshima in that Ohshima does not exemplify the electrodes made of tungsten and having average surface roughness of 3 μm or smaller into the portions of the tube where the pinch seal is formed.

Honda in analogous art of discharge lamp discloses (column 3 lines 56-64) a discharge lamp having electrodes made of material whose main component is tungsten

and having average surface roughness $0.3\mu\text{m}$ or less. This type of electrode with average surface roughness $0.3\mu\text{m}$ or less can be used with pinch seal type discharge lamps (column 4 lines 53-57). Honda further discloses (column 5 lines 20-28) that limiting the surface roughness of the electrode lessens the impurities attached, therefore the scattering of electrode is substance is less and thus improves the luminous flux of the lamp.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the electrode of Ohshima with tungsten electrode with average surface roughness $0.3\mu\text{m}$ or less as taught by Honda for reducing the impurities attached with the electrode and therefore less scattering of electrode material and improving the luminous flux of the lamp. Furthermore the whole electrode having average surface roughness $0.3\mu\text{m}$ or less obviously includes the portion of the electrode with average surface roughness $0.3\mu\text{m}$ or less into the tube in the pinch seal portions.

Claim 6 essentially recites the same limitation as of claim 3 with electrode having the average surface roughness between $0.3\mu\text{m}$ and $3\mu\text{m}$. Honda discloses the average surface roughness of the electrode being $0.3\mu\text{m}$ and hence the claim is rejected for the same reason as claim 3.

Claim 7 essentially recites the same limitations as of claim 6 and hence is rejected for the same reason.

Regarding claim 2 Honda discloses (column 5 lines 30-32) the tungsten electrode is subjected to chemical polishing to obtain the desired surface roughness.

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Regarding claim 5 Ohshima discloses (page 5 lines 20-23) that the pinch seals are formed by heating the quartz glass tube at a temperature in the range of 2000°C to 2300°C.

Claim 4 essentially recites the same limitations as of claim 3 with average surface roughness of the electrode being 2µm or smaller and hence is rejected for the same reason.

Response to Arguments

Applicant's arguments with respect to claims 2,3 and 5 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S.R.

Sikha Roy
Patent Examiner
Art Unit 2879

Joseph Williams
Patent Examiner